

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	46107-0068
First Inventor	Guoming G. Zhu
Title	An Ionization Detection System Architecture to Minimize PCM Pin Count
Express Mail Label	ET 122 668 386 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:Mail Stop Patent Application
Commissioner for Patents
P. O. Box 1450
Alexandria VA 22313-1450

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original, and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.
See 37 CFR 1.27.
3. ☒ Specification [Total Pages **20**]
(preferred arrangement set forth below)
- Descriptive title of the invention
 - Cross Reference to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table, or a computer program listing appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets **16**]
5. Oath or Declaration [Total Pages **3**]
- a. ☒ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
- i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76
7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
- a. ☐ Computer Readable Form (CRF)
- b. Specification Sequence Listing on:
- i. ☐ CD-ROM or CD-R (2 copies); or
- ii. ☐ Paper
- c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
11. ☐ English Translation Document (if applicable)
12. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☒ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.:

Prior application information: Examiner _____ Group / Art Unit: _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS☐ Customer Number: _____ or ☒ Correspondence address below

Name	Douglas A. Mullen		
	Dickinson Wright PLLC		
Address	1901 L Street N.W.		
	Suite 800		
City	Washington, D.C.	State	Zip Code 20036
Country	USA	Telephone	202-457-0160
		Fax	202-659-1559

Name (Print/Type)	Douglas A. Mullen	Registration No. (Attorney/Agent)	38,569
Signature	<i>Douglas A. Mullen</i>	Date	August 5, 2003

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

01576 U.S. PTO
08/05/0303915 U.S. PTO
10/634724

08/05/03

<h1 style="margin: 0;">FEE TRANSMITTAL</h1> <h2 style="margin: 0;">for FY 2003</h2> <p style="font-size: small; margin: 0;">Effective 01/01/2003. Patent fees are subject to annual revision.</p>		Complete if Known	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Application Number	
		Filing Date	
		First Named Inventor Guoming G. Zhu	
		Examiner Name	
		Group Art Unit	
TOTAL AMOUNT OF PAYMENT		x > \$ \$790.00	
		Attorney Docket No. 46107-0068	

METHOD OF PAYMENT (check all that apply)	FEE CALCULATION (continued)																																																																																																																																																																																														
<input checked="" type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/> Deposit Account: Deposit Account Number 04-1061 Deposit Account Name Dickinson Wright PLLC The Director is authorized to: (check all that apply) <input type="checkbox"/> Charge fee(s) indicated below <input checked="" type="checkbox"/> Credit any overpayments <input checked="" type="checkbox"/> Charge any additional fee(s) during the pendency of this application <input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.	<h3>3. ADDITIONAL FEES</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1051</td> <td>130</td> <td>2051</td> <td>65</td> <td>Surcharge - late filing fee or oath</td> <td></td> </tr> <tr> <td>1052</td> <td>50</td> <td>2052</td> <td>25</td> <td>Surcharge - late provisional filing fee or cover sheet</td> <td></td> </tr> <tr> <td>1053</td> <td>130</td> <td>1053</td> <td>130</td> <td>Non - English specification</td> <td></td> </tr> <tr> <td>1812</td> <td>2,520</td> <td>1812</td> <td>2,520</td> <td>For filing a request for <i>ex parte</i> reexamination</td> <td></td> </tr> <tr> <td>1804</td> <td>920*</td> <td>1804</td> <td>920*</td> <td>Requesting publication of SIR prior to Examiner action</td> <td></td> </tr> <tr> <td>1805</td> <td>1,840*</td> <td>1805</td> <td>1,840*</td> <td>Requesting publication of SIR after Examiner action</td> <td></td> </tr> <tr> <td>1251</td> <td>110</td> <td>2251</td> <td>55</td> <td>Extension for reply within first month</td> <td></td> </tr> <tr> <td>1252</td> <td>410</td> <td>2252</td> <td>205</td> <td>Extension for reply within second month</td> <td></td> </tr> <tr> <td>1253</td> <td>930</td> <td>2253</td> <td>465</td> <td>Extension for reply within third month</td> <td></td> </tr> <tr> <td>1254</td> <td>1,450</td> <td>2254</td> <td>725</td> <td>Extension for reply within fourth month</td> <td></td> </tr> <tr> <td>1255</td> <td>1,970</td> <td>2255</td> <td>985</td> <td>Extension for reply within fifth month</td> <td></td> </tr> <tr> <td>1401</td> <td>320</td> <td>2401</td> <td>160</td> <td>Notice of Appeal</td> <td></td> </tr> <tr> <td>1402</td> <td>320</td> <td>2402</td> <td>160</td> <td>Filing a brief in support of an appeal</td> <td></td> </tr> <tr> <td>1403</td> <td>280</td> <td>2403</td> <td>140</td> <td>Request for oral hearing</td> <td></td> </tr> <tr> <td>1451</td> <td>1,510</td> <td>1451</td> <td>1,510</td> <td>Petition to institute a public use proceeding</td> <td></td> </tr> <tr> <td>1452</td> <td>110</td> <td>2452</td> <td>55</td> <td>Petition to revive - unavoidable</td> <td></td> </tr> <tr> <td>1453</td> <td>1,300</td> <td>2453</td> <td>650</td> <td>Petition to revive - unintentional</td> <td></td> </tr> <tr> <td>1501</td> <td>1,300</td> <td>2501</td> <td>650</td> <td>Utility issue fee (or reissue)</td> <td></td> </tr> <tr> <td>1502</td> <td>470</td> <td>2502</td> <td>235</td> <td>Design issue fee</td> <td></td> </tr> <tr> <td>1503</td> <td>630</td> <td>2503</td> <td>315</td> <td>Plant issue fee</td> <td></td> </tr> <tr> <td>1460</td> <td>130</td> <td>1460</td> <td>130</td> <td>Petitions to the Commissioner</td> <td></td> </tr> <tr> <td>1807</td> <td>50</td> <td>1807</td> <td>50</td> <td>Processing fee under 37 CFR § 1.17(q)</td> <td></td> </tr> <tr> <td>1806</td> <td>180</td> <td>1806</td> <td>180</td> <td>Submission of Information Disclosure Statement</td> <td></td> </tr> <tr> <td>8021</td> <td>40</td> <td>8021</td> <td>40</td> <td>Recording each patent assignment per property (times number of properties)</td> <td>40.00</td> </tr> <tr> <td>1809</td> <td>750</td> <td>2809</td> <td>375</td> <td>Filing a submission after final rejection (37 CFR § 1.129(a))</td> <td></td> </tr> <tr> <td>1810</td> <td>750</td> <td>2810</td> <td>375</td> <td>For each additional invention to be examined (37 CFR § 1.129(b))</td> <td></td> </tr> <tr> <td>1801</td> <td>750</td> <td>2801</td> <td>375</td> <td>Request for Continued Examination (RCE)</td> <td></td> </tr> <tr> <td>1802</td> <td>900</td> <td>1802</td> <td>900</td> <td>Request for expedited examination of a design application</td> <td></td> </tr> <tr> <td colspan="6">Other fee (specify) _____</td> </tr> <tr> <td colspan="5" style="text-align: right;">SUBTOTAL (3)</td> <td style="text-align: right;">x > \$ \$40.00</td> </tr> </tbody> </table>	Large Entity		Small Entity		Fee Description	Fee Paid	Fee Code	Fee (\$)	Fee Code	Fee (\$)	1051	130	2051	65	Surcharge - late filing fee or oath		1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet		1053	130	1053	130	Non - English specification		1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination		1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action		1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action		1251	110	2251	55	Extension for reply within first month		1252	410	2252	205	Extension for reply within second month		1253	930	2253	465	Extension for reply within third month		1254	1,450	2254	725	Extension for reply within fourth month		1255	1,970	2255	985	Extension for reply within fifth month		1401	320	2401	160	Notice of Appeal		1402	320	2402	160	Filing a brief in support of an appeal		1403	280	2403	140	Request for oral hearing		1451	1,510	1451	1,510	Petition to institute a public use proceeding		1452	110	2452	55	Petition to revive - unavoidable		1453	1,300	2453	650	Petition to revive - unintentional		1501	1,300	2501	650	Utility issue fee (or reissue)		1502	470	2502	235	Design issue fee		1503	630	2503	315	Plant issue fee		1460	130	1460	130	Petitions to the Commissioner		1807	50	1807	50	Processing fee under 37 CFR § 1.17(q)		1806	180	1806	180	Submission of Information Disclosure Statement		8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40.00	1809	750	2809	375	Filing a submission after final rejection (37 CFR § 1.129(a))		1810	750	2810	375	For each additional invention to be examined (37 CFR § 1.129(b))		1801	750	2801	375	Request for Continued Examination (RCE)		1802	900	1802	900	Request for expedited examination of a design application		Other fee (specify) _____						SUBTOTAL (3)					x > \$ \$40.00
Large Entity		Small Entity		Fee Description	Fee Paid																																																																																																																																																																																										
Fee Code	Fee (\$)	Fee Code	Fee (\$)																																																																																																																																																																																												
1051	130	2051	65	Surcharge - late filing fee or oath																																																																																																																																																																																											
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet																																																																																																																																																																																											
1053	130	1053	130	Non - English specification																																																																																																																																																																																											
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination																																																																																																																																																																																											
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action																																																																																																																																																																																											
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action																																																																																																																																																																																											
1251	110	2251	55	Extension for reply within first month																																																																																																																																																																																											
1252	410	2252	205	Extension for reply within second month																																																																																																																																																																																											
1253	930	2253	465	Extension for reply within third month																																																																																																																																																																																											
1254	1,450	2254	725	Extension for reply within fourth month																																																																																																																																																																																											
1255	1,970	2255	985	Extension for reply within fifth month																																																																																																																																																																																											
1401	320	2401	160	Notice of Appeal																																																																																																																																																																																											
1402	320	2402	160	Filing a brief in support of an appeal																																																																																																																																																																																											
1403	280	2403	140	Request for oral hearing																																																																																																																																																																																											
1451	1,510	1451	1,510	Petition to institute a public use proceeding																																																																																																																																																																																											
1452	110	2452	55	Petition to revive - unavoidable																																																																																																																																																																																											
1453	1,300	2453	650	Petition to revive - unintentional																																																																																																																																																																																											
1501	1,300	2501	650	Utility issue fee (or reissue)																																																																																																																																																																																											
1502	470	2502	235	Design issue fee																																																																																																																																																																																											
1503	630	2503	315	Plant issue fee																																																																																																																																																																																											
1460	130	1460	130	Petitions to the Commissioner																																																																																																																																																																																											
1807	50	1807	50	Processing fee under 37 CFR § 1.17(q)																																																																																																																																																																																											
1806	180	1806	180	Submission of Information Disclosure Statement																																																																																																																																																																																											
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40.00																																																																																																																																																																																										
1809	750	2809	375	Filing a submission after final rejection (37 CFR § 1.129(a))																																																																																																																																																																																											
1810	750	2810	375	For each additional invention to be examined (37 CFR § 1.129(b))																																																																																																																																																																																											
1801	750	2801	375	Request for Continued Examination (RCE)																																																																																																																																																																																											
1802	900	1802	900	Request for expedited examination of a design application																																																																																																																																																																																											
Other fee (specify) _____																																																																																																																																																																																															
SUBTOTAL (3)					x > \$ \$40.00																																																																																																																																																																																										
<h3>1. BASIC FILING FEE</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>750</td> <td>2001</td> <td>375</td> <td>Utility filing fee</td> <td>750.00</td> </tr> <tr> <td>1002</td> <td>330</td> <td>2002</td> <td>165</td> <td>Design filing</td> <td></td> </tr> <tr> <td>1003</td> <td>520</td> <td>2003</td> <td>260</td> <td>Plant filing fee</td> <td></td> </tr> <tr> <td>1004</td> <td>750</td> <td>2004</td> <td>375</td> <td>Reissue filing</td> <td></td> </tr> <tr> <td>1005</td> <td>160</td> <td>2005</td> <td>80</td> <td>Provisional filing fee</td> <td></td> </tr> <tr> <td colspan="5" style="text-align: right;">SUBTOTAL (1)</td> <td style="text-align: right;">x > \$ \$750.00</td> </tr> </tbody> </table> <h3>2. EXTRA CLAIM FEES FOR UTILITY AND</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Total Claims</th> <th colspan="2">Extra Claims</th> <th colspan="2">Fee from below</th> <th colspan="2">Fee Paid</th> </tr> </thead> <tbody> <tr> <td></td> <td>20</td> <td>-20** =</td> <td>0</td> <td>X</td> <td>18.00</td> <td>=</td> <td>0.00</td> </tr> <tr> <td>Independent Claims</td> <td>3</td> <td>-3** =</td> <td>0</td> <td>X</td> <td>84.00</td> <td>=</td> <td>0.00</td> </tr> <tr> <td>Multiple Dependent</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1202</td> <td>18</td> <td>2202</td> <td>9</td> <td>Claims in excess of 20</td> <td></td> </tr> <tr> <td>1201</td> <td>84</td> <td>2201</td> <td>42</td> <td>Independent claims in excess of 3</td> <td></td> </tr> <tr> <td>1203</td> <td>280</td> <td>2203</td> <td>140</td> <td>Multiple dependent claim, if not paid</td> <td></td> </tr> <tr> <td>1204</td> <td>84</td> <td>2204</td> <td>42</td> <td>** Reissue independent claims over original patent</td> <td></td> </tr> <tr> <td>1205</td> <td>18</td> <td>2205</td> <td>9</td> <td>** Reissue claims in excess of 20 and over original patent</td> <td></td> </tr> <tr> <td colspan="5" style="text-align: right;">SUBTOTAL (2)</td> <td style="text-align: right;">x > \$ \$0.00</td> </tr> </tbody> </table> <p>**or number previously paid, if greater; For Reissues, see above</p>	Large Entity		Small Entity		Fee Description	Fee Paid	Fee Code	Fee (\$)	Fee Code	Fee (\$)	1001	750	2001	375	Utility filing fee	750.00	1002	330	2002	165	Design filing		1003	520	2003	260	Plant filing fee		1004	750	2004	375	Reissue filing		1005	160	2005	80	Provisional filing fee		SUBTOTAL (1)					x > \$ \$750.00	Total Claims		Extra Claims		Fee from below		Fee Paid			20	-20** =	0	X	18.00	=	0.00	Independent Claims	3	-3** =	0	X	84.00	=	0.00	Multiple Dependent								Large Entity		Small Entity		Fee Description	Fee Paid	Fee Code	Fee (\$)	Fee Code	Fee (\$)	1202	18	2202	9	Claims in excess of 20		1201	84	2201	42	Independent claims in excess of 3		1203	280	2203	140	Multiple dependent claim, if not paid		1204	84	2204	42	** Reissue independent claims over original patent		1205	18	2205	9	** Reissue claims in excess of 20 and over original patent		SUBTOTAL (2)					x > \$ \$0.00	<p>*Reduced by Basic Filing Fee Paid</p>																																																																		
Large Entity		Small Entity		Fee Description			Fee Paid																																																																																																																																																																																								
Fee Code	Fee (\$)	Fee Code	Fee (\$)																																																																																																																																																																																												
1001	750	2001	375	Utility filing fee	750.00																																																																																																																																																																																										
1002	330	2002	165	Design filing																																																																																																																																																																																											
1003	520	2003	260	Plant filing fee																																																																																																																																																																																											
1004	750	2004	375	Reissue filing																																																																																																																																																																																											
1005	160	2005	80	Provisional filing fee																																																																																																																																																																																											
SUBTOTAL (1)					x > \$ \$750.00																																																																																																																																																																																										
Total Claims		Extra Claims		Fee from below		Fee Paid																																																																																																																																																																																									
	20	-20** =	0	X	18.00	=	0.00																																																																																																																																																																																								
Independent Claims	3	-3** =	0	X	84.00	=	0.00																																																																																																																																																																																								
Multiple Dependent																																																																																																																																																																																															
Large Entity		Small Entity		Fee Description	Fee Paid																																																																																																																																																																																										
Fee Code	Fee (\$)	Fee Code	Fee (\$)																																																																																																																																																																																												
1202	18	2202	9	Claims in excess of 20																																																																																																																																																																																											
1201	84	2201	42	Independent claims in excess of 3																																																																																																																																																																																											
1203	280	2203	140	Multiple dependent claim, if not paid																																																																																																																																																																																											
1204	84	2204	42	** Reissue independent claims over original patent																																																																																																																																																																																											
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent																																																																																																																																																																																											
SUBTOTAL (2)					x > \$ \$0.00																																																																																																																																																																																										

SUBMITTED BY		Complete (if applicable)	
Name (Print/Type)	Douglas A. Mullen	Registration No. (Attorney/Agent)	38,569
Signature		Telephone	202-457-0160
		Date	August 5, 2003

WARNING: Information in this form may become public. Credit card information should not be included in this form. Provide credit card information and authorization on

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.